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Table of Contents

1. One-Year Limited Warranty 3
2. Safety Information 6
2.1 Conventions Used 6
2.2 Important Safety Instructions 8
2.3 Using This Manual 9
3. About the tool 10
3.1 Tester Controls 10
3.2 Kit includes 11
3.3 Specifications 11
3.4 System Setup 12
3.4.1 Select Language 12
3.4.2 Change Measurement Unit 12
3.4.3 Save the Namebase 13
4. Diagnosis 14
4.1 Power on Test 14
4.2 Dynamic High Pressure Test 16
4.3 Max High Pressure Test 18
5. Software Installation and Printing 19
5.1 Installation the software 20
5.2 Printing 21
6. Shutting Down 22
7. Fuse and Pressure Release 23
7.1 Fuse Replacement 23
7.2 Pressure Release 23

1. One-Year Limited Warranty

Subject to the conditions of this limited warranty, Shenzhen Foxwell Technology Co., Ltd ("FOXWELL") warrants its customer that this product is free of defects in material and workmanship at the time of its original purchase for a subsequent period of one (1) year.

In the event this product fails to operate under normal use, during the warranty period, due to defects in materials and workmanship, FOXWELL will, at its sole option, either repair or replace the product in accordance with the terms and conditions stipulated herein.

Terms and Conditions

1. If FOXWELL repairs or replaces the product, the repaired or replaced product shall be warranted for the remaining time of the original warranty period. No charge will be made to the customer for replacement parts or labor charges incurred by FOXWELL in repairing or replacing the defective parts.

2. The customer shall have no coverage or benefits under this limited warranty if any of the following conditions are applicable:

a) The product has been subjected to abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of FOXWELL, including damage caused by shipping.

b) The Product has been damaged from external causes such as collision with an object, or from fire, flooding, sand, dirt, windstorm, lightning, earthquake or damage from exposure to weather conditions, an Act of God, or battery leakage, theft, blown fuse, improper use of any electrical source, or the product was used in combination or connection with other product, attachments, supplies or consumables not manufactured or distributed by FOXWELL.

3. The customer shall bear the cost of shipping the product to

FOXWELL. And FOXWELL shall bear the cost of shipping the product back to the customer after the completion of service under this limited warranty.

4. FOXWELL does not warrant uninterrupted or error-free operation of the product. If a problem develops during the limited warranty period, the consumer shall take the following step-by-step procedure:

a) The customer shall return the product to the place of purchase for repair or replacement processing, contact your local FOXWELL distributor or visit our website www.foxwelltech.com to get further information.

b) The customer shall include a return address, daytime phone number and/or fax number, complete description of the problem and original invoice specifying date of purchase and serial number.

c) The customer will be billed for any parts or labor charges not covered by this limited warranty.

d) FOXWELL will repair the Product under the limited warranty within 30 days after receipt of the product. If FOXWELL cannot perform repairs covered under this limited warranty within 30 days, or after a reasonable number of attempts to repair the same defect, FOXWELL at its option, will provide a replacement product or refund the purchase price of the product less a reasonable amount for usage.

e) If the product is returned during the limited warranty period, but the problem with the product is not covered under the terms and conditions of this limited warranty, the customer will be notified and given an estimate of the charges the customer must pay to have the product repaired, with all shipping charges billed to the customer. If the estimate is refused, the product will be returned freight collect. If the product is returned after the expiration of the limited warranty period, FOXWELL' normal service policies shall apply and the customer will be responsible for all shipping charges.

5. ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS

FOR A PARTICULAR PURPOSE OR USE, SHALL BE LIMITED TO THE DURATION OF THE FOREGOING LIMITED WRITTEN WARRANTY. OTHERWISE, THE FOREGOING LIMITED WARRANTY IS THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. FOXWELL SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF ANTICIPATED BENEFITS OR PROFITS, LOSS OF SAVINGS OR REVENUE, LOSS OF DATA, PUNITIVE DAMAGES, LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT OR FACILITIES, DOWNTIME, THE CLAIMS OF ANY THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY, RESULTING FROM THE PURCHASE OR USE OF THE PRODUCT OR ARISING FROM BREACH OF THE WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL OR EQUITABLE THEORY, EVEN IF FOXWELL KNEW OF THE LIKELIHOOD OF SUCH DAMAGES. FOXWELL SHALL NOT BE LIABLE FOR DELAY IN RENDERING SERVICE UNDER THE LIMITED WARRANTY, OR LOSS OF USE DURING THE PERIOD THAT THE PRODUCT IS BEING REPAIRED.

6. Some states do not allow limitation of how long an implied warranty lasts, so the one-year warranty limitation may not apply to you (the Consumer). Some states do not allow the exclusion or limitation of incidental and consequential damages, so certain of the above limitations or exclusions may not apply to you (the Consumer). This limited warranty gives the Consumer specific legal rights and the Consumer may also have other rights which vary from state to state.

2. Safety Information

For your safety, and to prevent damage to the equipment and vehicles, read this manual thoroughly before operating your tool. The safety messages presented below and throughout this user's manual are reminders to the operator to exercise extreme care when using this device. Always refer to and follow safety messages and test procedures provided by the manufacturer of the vehicle or equipment being tested. Read, understand and follow all safety messages and instructions in this manual.

2.1 Conventions Used

We provide safety messages to help prevent personal injury and equipment damage. Below are signal words we used to indicate the hazard level in a condition.

No.	Signal Word	Hazard Level
1	⚠DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders.
2	⚠WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.
3	⚠CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or to by standers.

2.2 Important Safety Instructions

And always use your tool as described in the user's manual, and follow all safety messages.

WARNING Do not route the test cable in a manner that would interfere with driving controls.

WARNING Do not exceed voltage limits between inputs specified in this user's manual.

WARNING Always wear ANSI approved goggles to protect your eyes from propelled objects as well as hot or caustic liquids.

WARNING Fuel, oil vapors, hot steam, hot toxic exhaust gases, acid, refrigerant and other debris produced by a malfunction engine can cause serious injury or death. Do not use the tool in areas where explosive vapor may collect, such as in below-ground pits, confined areas, or areas that are less than 18 inches (45 cm) above the floor.

WARNING Do not smoke, strike a match, or cause a spark near the vehicle while testing and keep all sparks, heated items and open flames away from the battery and fuel / fuel vapors as they are highly flammable.

WARNING Keep a dry chemical fire extinguisher suitable for gasoline, chemical and electrical fires in work area.

WARNING Always be aware of rotating parts that move at high speed when an engine is running and keep a safe distance from these parts as well as other potentially moving objects to avoid serious injury.

WARNING Do not touch engine components that get very hot when an engine is running to avoid severe burns.

WARNING Block drive wheels before testing with engine running. Put the transmission in park (for automatic transmission) or neutral (for manual transmission). And never leave a running engine unattended.

WARNING Do not wear jewelry or loose fitting clothing when working on engine.

CAUTION Make sure to turn off ignition before connecting or disconnecting the tool.

2.3 Using This Manual

We provide instructions for the usage of your tester in this manual. Below is a list of conventions we used in the manual.

Safety Information

See *Safety Information* on page 8.

Bold Text

Bold emphasis is used in procedures to highlight selectable items such as buttons and menu options.

Example:

Use **UP/DOWN** to select the desired measurement unit.

Bold-Italic Text

Bold-italic text is used in the procedures to highlight the menus on the tester screen.

Example:

Use **UP/DOWN** to select **Language** from *System Setup* screen.

Symbols and Icons

√ Check Note

Additional information about the subject in the preceding paragraph is introduced by a √ Check Note.

Example:

√ The pressure tester is set to display English menus by default.

IMPORTANT indicates a situation which, if not avoided, may result in damage to the test equipment or vehicle.

Example:

IMPORTANT Do not soak keypad as water might find its way into the pressure tester.

Screens

Some help messages, information, and data displayed on the scanner are also shown in graphical text boxes.

3. About the Tool

CRD700 is specially designed for fast and accurate diagnosis of fault in common rail systems. It represents the state of art technology for measuring the pressure in common rail systems.

3.1 Tester Controls

A. **LCD Display** - shows menus, test results and operation tips.

B. **Back Key** - cancels an action and returns to previous screen or level.

C. **Printing Key**- it's used to send the test result to the printer if needed. With the wireless printing module, the user can print the test data without the action to connect it to a printer.

D.**OK Key** - confirms an action or movement and goes to next level, and saves test data.

E. **Wireless Receiver Key** - is used to send data to a PC using the Foxwell wireless receiver.

F. Left / Right Scroll Key - Checks the maximum pressure and actual pressure when operating the dynamic pressure test.

G. **Up / Down Key** - moves selection up/down when testing.

I. **Engine Key** - To quick start the engine when the users operate the max high pressure test.

H. **Switch Key**- Turns on/off the pressure tester.

J. **Power Wire**- Creates the connection with the vehicle's battery.

K. **Port for Sensor**- Provides a connection between the pressure tester and the sensor.

IMPORTANT Do not use solvents such as alcohol to clean keypad or display. Use a mild nonabrasive detergent and a soft cotton cloth.

IMPORTANT Do not soak keypad as water might find its way into the scanner.

3.2 Kit Included

1	CRD700 digital common rail high pressure tester
2	User's guide
3	1 flexible high pressure hoses M12*1.5/M12*1.5
4	1 flexible high pressure hoses M12*1.5/M14*1.5
5	1 metal tube M12*1.5/M12*1.5
6	1 high pressure "T" adaptor
7	1 high pressure probe
8	1 molding case
9	1USB wireless receiver
10	1 CD with software and operation guide

3.3 Specifications

No.	Item	Spec
1	Sensor type	Radiometric
2	Measuring range	0 to 2000 bar / 0-29000 psi
3	Resolution	1 bar
4	Display	Backlit 64*128pixels graphic LCD
5	Sensor accuracy	+/-1%
6	Overpressure limit	3000 bar
7	Data transmission	Bluetooth

	interface	
8	Printer Interface	Bluetooth
9	Working temperature	0--- 60°C (32---140°F)
10	Storage Temperature	-20 --- 70°C (-4 ---158°F)

3.4 System Setup

System Setup allows you to program the tester to meet your specific needs:

- Select the language
- Change measurement unit (Bar or Psi)
- Save the workshop

√ ***System Setup*** settings remain until changes to the existing setups are made.

To do system setup:

1. Enter into the setup mode by pressing the OK Key the moment the tester is turned on.

3.4.1 Select Language

√ The pressure tester is set to display English menus by default.

To select the system language:

1. Use **Up/Down** key to select language from the screen
2. Press **OK** key to confirm

3.4.2 Change Measurement Unit

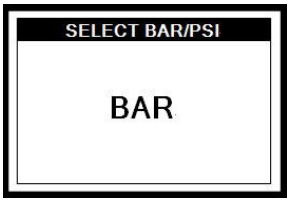
After confirming the language, the screen will automatically show

the selection of measurement unit.

√ Bar is the default measurement unit.

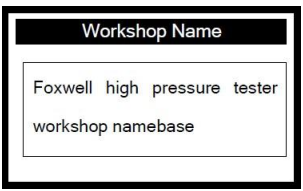
To change the measurement unit:

1. Use **Up/Down** key to select bar/psi from the screen
2. Press **OK** key to confirm



3.4.3 Save Workshop

√ The workshop will be used to send the test data to PC for further checking and printing when the wireless receiver is applied.



4. Diagnosis

CRD700 is an indispensible tool specially designed to diagnose the condition of high pressure pump and detect the faults in the common rail systems, and this pressure tester allows you to measure the pressure on the common rail up to 2000 bar (29000 psi).

To have a better understanding about this tool:

● A start-up auto test upon the tester is turned on

- Perform both dynamic pressure test and max high pressure test
- Unique integrated bluetooth module send data to computer for close check and printing
- Continuously check the battery status
- Large backlit 64*128 pixels graphic LCD brings all the information you need.

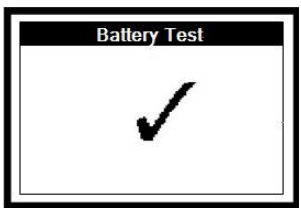
4.1 Power-on Test

To perform diagnosis on vehicles:

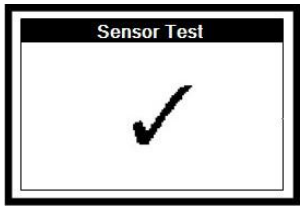
1. Connect the sensor to the pressure tester and connect the red and black clamps to the vehicle battery
2. Press the “Power” switch to turn on the tester
3. The screen will show the following welcome message

√ The pressure tester detects the status of battery, memory, sensor and fuse when it’s linked to the vehicle, and gives a test result on the display as illustrated below. This is also called” Power on test”.

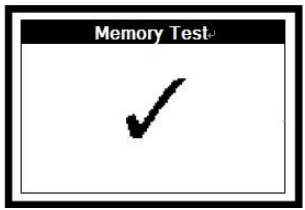
4. Battery Test



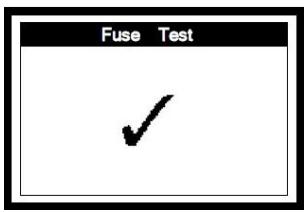
5. Sensor test



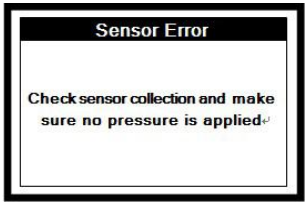
6. Memory test



7. Fuse test



√ If the "Power on test" fails, a message explaining the problem will be showed.



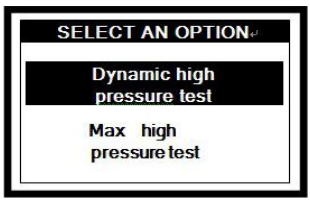
4.2 DYNAMIC HIGH PRESSURE TEST

The “Dynamic high pressure test” function is used to measures actual pressure in common rail circuit with engine running.

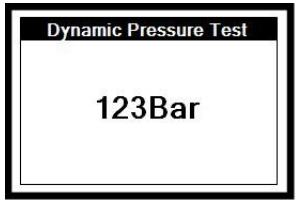
√ This function is useful to view a snapshot of the operation of common rail system by reading the actual and maximum pressure.

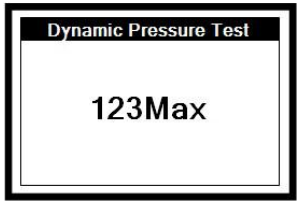
To perform the dynamic high pressure test:

1. Use **UP/Down** key to select the **Dynamic high pressure test** from option menu screen.



2. Press **OK** key to confirm.
3. Use the **Left/Right** key to move between the maximum and actual reading
4. View tested pressures on screen.





√ Accelerate or decelerate the engine to check if the pressure varies correctly.

5. Use **Left** key to clear the maximum reading.

6. Use **Right** key to check the stored maximum reading.

√ The maximum reading is stored even when the display shows the actual pressure.

7. Use the **Wireless Receiver** key to send the test result to a computer with the wireless receiver provided.

√ By selecting the **Wireless Receiver** key, the real-time data function can be activated and deactivated.

√ View the maximum, minimum and actual reading pressure and also some graphical functions from the program on the PC screen.

8. Press the **Printing** key first and then use the **OK** key to confirm the operation of printing, please refer to the **Software Installation and Printing** instruction on page 20.

IMPORTANT This **Dynamic high pressure test** function can't be performed on the road.

IMPORTANT The connection must be done using the “T” adaptor, the metal tube and two flexible hoses with their features introduced above in the **Kit Included**.

IMPORTANT When work on this mode of operation, please tighten and screw up all the joints.

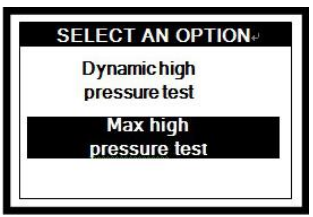
4.3 MAX HIGH PRESSURE TEST

The “Max high pressure test” is used to check high pressure test pump and compares with the manufacturer’s values.

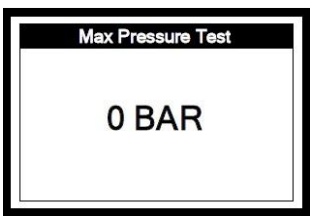
√ This test is aimed to check if the high pressure pump can supply pressure enough (At least 1000 bar).

To perform the function of max high pressure test:

1. Use **UP/Down** key to select the **Dynamic high pressure test** from option menu screen.



2. Press **OK** key to confirm.
3. View the test result on the screen.



IMPORTANT It's necessary to reach a pressure of 1000bar or more to ensure the high pressure pump is operating normally.

√ The pressure tester will automatically stop the starter when the pressure less than 1000bar last for over 4 seconds.

4. Trouble shooting: If the pump doesn't reach 1000 bar, please check the following:

● Verify the pressure at the input of the pump is the right one?
Please use the tester CRD700 to test it.

● Make sure the pressure regulator works properly. Never easily replace the high pressure pump when uncertain about the working status of pressure regulator.

● If the above two are not defective, the high pressure pump should be faulty and replaced.

IMPORTANT Please never activate the starter by the vehicle's key when perform the max high pressure tester and the sensor is connected directly to the high pressure pump. The starter only can be manipulated by the pressure tester.

To test if the pump is able to reach this pressure at least 1000bar

● Make sure the output of the pump is connected directly to the sensor.

● Connect the red cable of the tester to the starter of the engine.

● The tester control the starter to make the high pressure pump work when the above two have been done.

If failed to connect the cable to the starter, then it can be connected to the starter relay.

● Turn on the ignition of the vehicle, but don't start the engine.

● Press the **Engine** key to activate the starter until the pump reaches at least 1000Bar

5.Software Installation and Printing

The tester is equipped with the wireless printing module, and it allows you to view the testing data on the computer screen and print the data without the need to connect the tester to the PC. And please to install

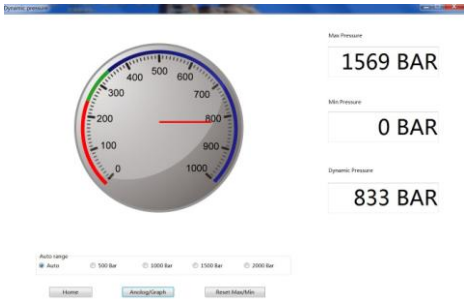
the software and driver of the wireless receiver first to perform these functions.

√ When the tester is in the mode of wireless printing, any other communication devices can't create any interference as the wireless receiver works in the unlicensed ISM band radio frequency band.

5.1 Installation the software

1. Download the program and files from the CD provided.
2. Unzip the installation files and programs. Follow instructions on computer screen to install the software and the driver.
3. Connect the wireless receiver with the computer.
4. Double click the desktop icon to launch the application.

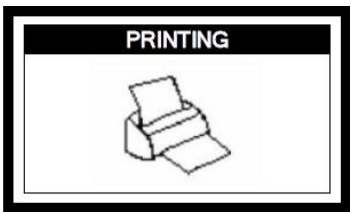
4 Click the Anolog/Graph to view the pressure graph.



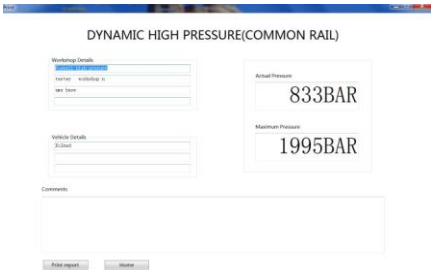
5.2 Print Data:

All the test results can be printed through wireless printing function.
To print the test result:

1. Connect the wireless receiver with the computer.
2. Press the **Printing** key and use **OK** key to confirm.
3. The printer icon can be found on the tester display and the pressure tester is sending the data to the PC.



4. Check the printing record from the computer screen.



5. Click the preview before printing.

6.Shutting Down the Pressure Tester

√ The battery status is continuously tested by CRD700. To avoid wrong diagnosis, when the battery voltage is too low, the following message

appears and the tester is turned off.

To power off the tester:

1. Press the **POWER** key and the tester will save the testing data you needed and then turn off.

7.Fuse and Pressure Release

7.1 Fuse Replacement

This pressure tester CRD700 contains an internal fuse.

√ When the fuse is blown and a message appears on the display, replace the battery as instructed below.

To replace the fuse:

1. Place the tester face down.
2. Remove back cover with a screw driver.
3. Remove the blown fuse and discard according to your local rules.
4. Install a new 20 Amp5*20mm fuse
5. Reinstall the back cover with the screw driver.

7.2 Pressure Release

It's very important to release the pressure before the connectors are disconnected,

IMPORTANT: If disconnect the adaptors when a high pressure is applied, injury may happen.